

From: intnhawkins@yahoo.com
Sent: Thursday, August 20, 2009 7:06 AM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Thursday, August 20, 2009 at 07:05:48, the following data was submitted
from <http://www.tva.gov/purpa/comments2.htm>

8/20/2009 7:5

Name: nathan hawkins
Comments: find another way to take care of your expenses
without raising rates to customers, especially residential customers. The
elderly and poor who live in homes where the quality of heating, cooling,
insulation, windows and doors is poor. bonuses for Executives need to be cut
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Comments in response to Tennessee Valley Authority (TVA) Staff Report on Preliminary Recommendations on the Four PURPA Standards Under Section 111(d) of the Public Utility Regulatory Policies Act Pursuant to the Energy Independence and Security Act of 2007

Submitted by the Southern Alliance for Clean Energy

July 27, 2009

Southern Alliance for Clean Energy respectfully submits these comments in response to the Tennessee Valley Authority Staff Report on Preliminary Recommendations on the Four PURPA Standards Under Section 111(d) of the Public Utility Regulatory Policies Act Pursuant to the Energy Independence and Security Act of 2007 (Staff Report).

These comments discuss the following standards, as required to be considered by the Public Utility Regulatory Act of 1978 (PURPA) (Pub. L. 95-617), as amended by the Energy Independence and Security Act of 2007 (EISA) (Pub. L. 110-140):

1. Integrated Resource Planning
2. Rate design modifications to promote energy efficiency investments
3. Consideration of smart grid investments
4. Smart grid information

I. Integrated Resource Planning:

The Southern Alliance for Clean Energy (SACE) agrees with the Staff Report that it is appropriate to adopt this standard, including policies that establish cost-effective energy efficiency as a supply resource, helping to promote energy efficiency options with customers, and ensuring ongoing integration of energy efficiency into TVA's processes.

a. TVA should place energy efficiency on equal footing with other generation resources.

As was discussed in SACE's original comments submitted on April 30, 2009, in 2005 – 2006 TVA and its distributors achieved energy savings of 0.04% of annual sales, whereas leading utilities are cost-effectively achieving energy savings of 0.4% to well in excess of 1% annual sales. While TVA's 2007 Strategic Plan and 2008 Environmental Policy both speak of the benefits that energy efficiency provides, the fact that TVA's performance on energy efficiency is an order of magnitude lower than that of leading utilities clearly indicates that energy efficiency has not been established as a priority resource.

The staff discussion of TVA's Power Supply Plan (PSP), (pp. 8 – 9), indicates that energy efficiency is not being given equal consideration with other supply-side generations options:

“Estimates of load reduction due to energy efficiency programs are forecast separately from the standard PSP modeling framework and then input into the PSP as an adjustment to the then-current load forecast. A bottom up approach is used, where each energy efficiency program is evaluated separately for its potential for kW savings based on the number of expected program participants and estimated average kW savings potential.”

In contrast to this approach, truly prioritizing energy efficiency involves a top-down approach that includes comprehensive study of the potential for reductions in energy demand from cost-effective energy efficiency programs. Programs are then designed to achieve that potential, and the megawatts (MW) saved are inputted into the PSP in the same manner that other supply-side resources are calculated.

Finally, the Staff Report concludes: “energy efficiency should be an important resource in TVA’s portfolio planning process and be given the same consideration as TVA’s supply-side resource options.” (Staff Report, p. 14). However, there is no discussion on the process that TVA should engage in to accomplish this ideological shift. SACE encourages TVA to engage in a meaningful discussion, both internally and with outside stakeholders, on how TVA will invest in aggressive energy efficiency programs and the technical resources necessary to evaluate new programs in the same way that supply-side technologies will be researched and developed. It should be recognized that the implementation of such practices will require not only an ideological shift from TVA’s current position regarding energy efficiency, but also a commitment of the resources necessary to conduct the required analysis.

In adopting this PURPA standard, the Southern Alliance for Clean Energy recommends that TVA adopt a top-down approach to energy efficiency that sets aggressive targets for energy demand reductions that will place TVA on par with leading utilities across the nation. Once aggressive goals are set, programs should be designed to meet these goals in the most cost-effective manner. This will require an equal level of evaluation and analysis as is given to other supply-side technologies. This approach should be adopted and integrated into TVA’s resource planning processes as quickly as possible to take advantage of the current momentum and opportunities for energy efficiency.

b. TVA should make a greater distinction between efforts at shifting peak load and true energy efficiency.

The Southern Alliance for Clean Energy strongly recommends that TVA make a greater distinction between energy efficiency and peak-load shifting. True energy efficiency results in measurable reductions in overall energy demand while peak-load shifting focuses on shifting peak demand to other, off-peak periods. While SACE recognizes the benefits of peak-load shifting and supports the implementation of programs designed to reduce costs and strain to the system from peak demand issues, it should be recognized that peak-load shifting is not the same as reducing overall energy demand.

TVA's stated goal of achieving peak reductions of 1,400 MW by 2012 should not be confused with an aggressive energy efficiency goal. To date, TVA has not made any commitment to reducing overall energy demand through energy efficiency measures. While there is often some overlap between reductions in peak demand and reductions in overall energy demand, the approach to achieving these goals differs significantly.

For example, time-of-use pricing can be very effective at shifting demand to off-peak times, but has a lesser impact in reducing overall energy demand. Such peak-demand programs do not provide the same level of benefits as true energy efficiency programs. Benefits such as reducing pollutant and greenhouse gas emissions, creating of clean-energy jobs, and reducing customer costs are not fully realized when programs are focused on reducing peak demand as opposed to reducing overall energy demand. Conversely, energy efficiency programs, such as achieving greater levels of market penetration of Energy Star rated appliances or building retrofit programs, reduce overall energy demand, maximizing benefits to consumers and utilities. Further, achieving significant reductions in overall energy demand will address the peak-demand issues because demand is reduced for all times of the day.

The Southern Alliance for Clean Energy recommends that TVA establish an aggressive goal for overall energy demand reduction independent of the goal to reduce peak demand by 1,400 MW by 2012. While recognizing the potential for energy efficiency and peak-demand programs to complement each other, the unique benefits provided by each and the different approaches to achieving these separate goals warrant a greater distinction between energy efficiency and peak-load shifting in TVA's resource planning processes.

c. TVA should set the benchmark for determining cost-effectiveness of energy efficiency programs at the cost of building new generation resources instead of the avoided cost of electricity from current generation resources.

As was discussed in SACE's initial comments on these PURPA standards submitted on April 30, 2009, SACE strongly recommends that the cost of building new generation be the benchmark for determining the cost-effectiveness of TVA's energy efficiency programs. The potential for energy efficiency is great enough that it should be considered as an alternative to building new generation, and available research clearly shows that energy efficiency and conservation programs can deliver energy savings at a price well below that of traditional generation resources. However, TVA typically compares the cost of energy efficiency to its average avoided costs (about 5 cents per kWh), its cost of coal generation (about 4 cents), or its marginal avoided costs (3 to 6 cents). Using these costs as the benchmark for cost-effective energy efficiency programs significantly undervalues the benefits of energy efficiency.

Even using these highly conservative values for energy efficiency, utilities that have published studies of energy efficiency potential find that demand can be reduced by over 15% within 5 to 10 years. However, it is widely recognized that the cost of new generation is much higher than these benchmarks; TVA is currently considering building new nuclear capacity that is considered to have a levelized cost of 11 to 15 cents per kWh. TVA should

value energy efficiency at the cost of new generation. This levelized cost comparison would make many energy efficiency programs cost-competitive with even the cheapest generation resources.

d. Conclusions

The Southern Alliance for Clean Energy agrees with the conclusion of the Staff Report that TVA should enhance current policies and procedures to further encourage the evaluation and implementation of cost-effective energy efficiency options for consumers. SACE also agrees with the Staff Report that energy efficiency should be an important resource in TVA's portfolio and be given the same consideration as TVA's supply-side resources. However, in order to accomplish these objectives, SACE recommends a top-down approach to energy efficiency that includes aggressive goals and programs independent of peak-shifting efforts. SACE further recommends that the cost of new generation be used as the benchmark for determining cost-effectiveness of energy efficiency programs in order to take full advantage of the suite of benefits that energy efficiency offers.

II. Rate design modifications to promote energy efficiency investments:

The Southern Alliance for Clean Energy agrees with the Staff Report that this standard be adopted and that all policy options set out in the standard be considered for applicability in the TVA service area. As recognized in the Staff report, there are two elements to this standard in the context of TVA. First, that rates charged to TVA's distributor utilities should incentivize the delivery of cost-effective energy efficiency; and second that rates charged by TVA's distributor utilities should be designed to incentivize the investment in energy efficiency by end-use consumers of TVA power.

a. TVA should consider rate designs that remove distributor disincentives to implement successful energy efficiency programs and instead creates incentives to meeting aggressive energy efficiency goals.

With regard to the first element, TVA should establish rate structures that incentivize the adoption by distributor utilities of cost-effective energy efficiency programs. This should be done independently of rate structures designed to achieve the shifting of energy use to a lower-cost time period (peak-shifting). While, as discussed above, SACE supports TVA's current efforts to redesign rates to reduce peak demand, this is not the same as incentivizing true reductions in overall energy demand. Rate designs such as time-of-use, and hourly, real-time pricing can achieve reductions in overall energy demand, but are primarily designed to shift load to off-peak times. SACE encourages TVA to continue evaluating these rate designs, but to also consider other rate structures specifically designed to incentives reductions in overall energy demand.

Rate designs that remove the throughput incentive and provide incentives for successful management of energy efficiency programs should be considered. Such a rate design should allow the recovery of energy efficiency related costs and reward the achievement of aggressive energy efficiency goals. This begins with establishing rates that reflect a

diminished financial reliance on electricity consumption. Allowing for the recovery of program costs, rewarding distributors for achieving aggressive energy efficiency goals, and allowing the recovery of lost revenues due to successful energy efficiency programs should be considered.

The Staff Report states that the nonprofit nature of TVA distributors aligns the organizational goals of public power companies with pursuing cost-effective energy efficiency. However, the lackluster impact of current energy efficiency programs among TVA distributors clearly demonstrates otherwise. While TVA distributors are public utilities that do not operate under a profit-maximization model, the removal of throughput incentives is still a significant hurdle to achieving effective energy efficiency programs because TVA distributors still see energy efficiency in terms of reduced revenues. TVA should work with distributors to create rate structures that remove this disincentive and instead incentive the successful implementation of aggressive energy efficiency programs.

b. TVA should work with distributors to establish customer rates that incentivize investment in energy efficiency by all customer classes.

With regard to the second element of this standard, TVA should work with distributors to design rate structures that incentivize the investment in energy efficiency by end-use consumers of TVA power. Phasing out declining block rate structures, that discourage energy efficiency by decreasing rates as more electricity is consumed, would be an initial first step. Appendix H – Wholesale Power Rates in the Staff Report clearly shows the prevalence of declining block rates in distributors' rate structures. Declining block rates typically discourage energy efficiency by decreasing rates as more electricity is consumed.

These rate structures should be re-evaluated by TVA in the context of least-cost planning as opposed to the lowest-rate approach that TVA has historically taken. While these rate structures may lead to lower rates for consumers on average, they often lead to higher costs for consumers compared to rates that encourage energy efficiency because the cost-savings resulting from reduced energy usage typically outweigh the benefits of lowered rates from declining block rate structures. If the proposed analysis shows greater benefits to the consumer from energy efficiency, these declining block rates should be phased out over time and replaced with rate designs that encourage energy efficiency for all customer classes.

Examples of rate designs that encourage investment in energy efficiency include:

- Inclining block rates that charge an increased rate as energy usage increases. Typically, a threshold is established depending on the customer's typical energy needs or industry standards. This benchmark is then used to establish the level at which rates increase once energy usage surpasses the agreed upon threshold.
- Straight fixed variable rates that place all of a utility's fixed costs into a fixed component of a customer's bill, thereby recovering only variable costs, such as fuel and purchased power, on a variable basis.

- Revenue neutral energy efficiency “feebates” that charge fees to those who use more than a typical amount of electricity while giving rebates in the same total amount to others in the class who use less than that amount.

TVA should work with its distributors to implement rates similar to those discussed about that incentives customer investment in energy efficiency. This effort should be coordinated with efforts to also incentivize peak shifting. Such a holistic approach to rate re-design will maximize benefits across customer classes and among TVA and its distributors.

c. Conclusion.

The structure of rates charged for electric power can have a significant impact on how aggressively energy efficiency measures are pursued. Rate structures can indicate to the utility and end-use consumer the value of conservation and demand reduction and also the timing when such activities are most beneficial to the power system. Often, ratemaking practices do not encourage, or could even discourage, utilities and end-use consumers from adopting energy conservation measures. The Southern Alliance for Clean Energy agrees with the conclusion of the Staff Report that this PURPA standard should be adopted and that all policy options set out in the standard be considered for applicability in the TVA service territory.

III. Consideration of smart grid investments:

The Southern Alliance for Clean Energy agrees with the Staff Report that TVA should adopt the smart grid investment evaluation factors outlined in Section (A) of the standard. SACE also agrees with the Staff Report that the Rate Recovery provisions contained in Section (B) and the Obsolete Equipment provisions contained in Section (C) of the standard apply to TVA and distributors only from a cost recovery perspective due to their status as public power entities. However, SACE encourages TVA to adopt modified versions of Section (B) and Section (C) to allow for distributors to recover the costs of deploying qualified smart grid systems and the remaining value of obsolete equipment from ratepayers.

a. TVA should adopt similar criteria for qualified smart grid systems as those put forward by the National Association of Regulatory Utility Commissions and the Federal Energy Regulatory Commission.

As discussed in the original comments submitted on April 30, 2009, SACE encourages TVA to adopt similar criteria as that put forward by the National Association of Regulatory Utility Commissions (NARUC) and the Federal Energy Regulatory Commission (FERC) concerning smart grid investment. This analysis could then serve the dual purpose of satisfying this PURPA standard and positioning the distributor to take advantage of federal assistance in the development of smart grid technologies.¹

¹ These recommendations can be found at: <http://www.ferc.gov/industries/electric/indus-act/smart-grid/FERC-NARUC-collaborative.pdf>

While the Staff Report provides a discussion of TVA's Tennessee Valley Smart Grid Vision being designed by TVA's Energy Efficiency and Demand Response team, it makes no mention of the need to coordinate TVA's efforts with national efforts currently underway such as those mentioned above. Coordination with other national efforts will be imperative as the nation moves towards a national grid that allows for the transmission of electricity across the service territories of multiple public and private utilities. In addition, federal assistance for smart grid deployment is conditioned on the installation of smart grid technologies that meet these national standards. It is important that, as TVA progresses with their smart grid programs, that TVA coordinate with other national organizations to ensure integration capability and eligibility for federal assistance.

b. TVA should allow distributors to recovery from ratepayers the costs relating to the deployment of qualified smart grid systems.

The Southern Alliance for Clean Energy agrees with the Staff Report that TVA and its distributors should work together to develop mechanisms to ensure that distributors reasonably recover their costs in qualified smart grid investments.

The continued investment in non-advanced technologies will significantly diminish the region's ability to adopt energy efficiency and renewable energy technologies. In contrast, the adoption of smart grid technologies will result in lower overall costs to consumers, provide valuable information to consumers about the impacts of their energy choices, allow the integration of new technologies that can reduce overall and peak energy demand, increase system reliability, and allow the integration of new lower cost and lesser-polluting energy resources and well as the widespread deployment of plug-in electric vehicles.

In all, the benefits to consumers of smart grid deployment will outweigh the costs associated with its purchase and installation. Prohibiting distributors from recovering the cost of deploying qualified smart grid technologies will significantly delay the transition to a smarter, more efficient grid. The Southern Alliance for Clean Energy supports the adoption of reasonable cost-recovery mechanisms for distributors who deploy qualified smart grid technologies.

c. TVA should allow the adjustment of rates to recover the unamortized cost of equipment rendered obsolete by the deployment of qualified smart grid technologies.

The Southern Alliance for Clean Energy agrees with the Staff Report that public power entities have little resources within the bounds of financial viability but to recover the unamortized cost of obsolete equipment through revenue streams, i.e. rates paid by customers. TVA and its distributors currently address such issues according to standard utility accounting practices. TVA should engage in conversations with its distributors to review these practices and ensure that these practices do not unnecessarily hinder the deployment of qualified smart grid technologies, nor provide excessive cost recovery for the distributors.

d. Conclusion

The Southern Alliance for Clean Energy agrees with the Staff Report that TVA should adopt Section (A) of this standard as written, except that TVA should adopt standards for smart grid investment that mirrors that of the National Association of Regulatory Utility Commissions and the Federal Energy Regulatory Commission. In addition, while SACE agrees that Sections (B) and (C) apply to TVA and distributors only from a cost-recovery perspective because of their status as public power entities, SACE recommends that TVA adopt modified versions of these standards to ensure the distributors an adequate cost-recovery mechanism related to smart grid investment.

IV. Smart grid information:

The Southern Alliance for Clean Energy agrees with the Staff Report that, due to the uncertainty of how smart grid investments will be made among the 158 distributors of TVA, that a modified version of this standard is appropriate. However, in contrast to the recommendation of the Staff Report, SACE strongly encourages TVA to consider taking a stronger regulatory role in the amount and type of information that is provided to customers by the distributor community.

a. TVA should provide its power distributors and directly served customers with appropriate price and usage information to facilitate cost effective smart-grid and energy efficiency activities.

SACE agrees with the staff report that, to the extent practicable, TVA should provide its power distributors and directly served customers with appropriate price and usage information to facilitate cost-effective smart-grid and energy efficiency activities. TVA is currently implementing several different pilot programs to install and operate equipment that is capable of monitoring and tracking this information. These projects should be evaluated, at least in part, on their ability to provide this information effectively and reliably.

As these pilot programs evolve, TVA should endeavor to provide distributors and directly-served customers with access to the information outlined in this standard, including:

- Intervals and projections, including hourly pricing and day-ahead projections of price information on not less than a daily basis;
- Sources, including type of generation and greenhouse gas emissions by type of generation on not less than an annual basis
- Usage, in kWh consumed, on not less than a weekly basis
- Information on time-based prices in the wholesale market and available to the purchaser.

Providing this information to distributors and direct-served customers will allow these entities to adjust their behavior to achieve greater energy demand reductions. It will also help identify those investments in smart grid and energy efficiency that are most cost-

effective based on the entity's particular usage patterns.

b. As the regulator of its distributors, TVA should require, to the extent practicable, that distributors provide the information specified in this standard to their ratepayers.

Usage information provides the consumer with information that allows them to adjust their behavior to reduce energy consumption and transfer demand to off-peak times. Studies have shown that providing this information to consumers leads to direct energy savings ranging from 5 to 15%. When combined with innovative rate designs and energy efficiency incentive programs, greater overall energy savings are achieved as the consumer is better able to identify those actions that will provide the most benefits at minimal cost.

To the extent practicable, each of the four categories of information specified in the standard, (prices, usage, intervals, and sources), should be provided to the consumer. In addition, consumers should be informed of the pollution, in overall pounds of carbon, nitrogen oxides, sulfur, mercury, and fine particles, resulting from the use of electricity. This data allows customers to see how their energy consumption choices impact air pollution and climate change, thereby allowing the customer to make informed choices about their energy usage.

The Staff Report argues that TVA's limited oversight of distributors' day-to-day administrative actions inhibits TVA's ability to mandate the provision of this information to consumers on a Valley-wide scale. However, under PURPA and other federal law, TVA acts as the regulatory body that oversees distributor activities. This is primarily done through the power purchase agreements between TVA and its distributors. This regulatory framework in no way inhibits TVA's ability to impose additional conditions on the sale of its power to distributors, including the provision of this information when practicable.

SACE recognizes that the provision of this information to consumers is dependent on the installation of smart-grid technologies and an effective flow of information between TVA and its distributors. However, as power purchase agreements expire and are renegotiated, requiring distributors, when feasible, to provide this information to consumers is neither overly-onerous, now outside the bounds of TVA's authority as regulator of its distributors.

c. Conclusions

The Southern Alliance for Clean Energy agrees with the Staff Report that TVA should endeavor to provide its power distributors and directly served customers with appropriate price and usage information to facilitate cost-effective smart-grid and energy efficiency activities. However, in contrast to the Staff Report, SACE encourages TVA to fulfill its regulatory role under PURPA and other federal law and require of distributors, where practicable, to provide this information outlined in this standard to end-use consumers.

V. Conclusion

The Southern Alliance for Clean Energy urges TVA to adopt the PURPA standards as discussed above in order to advance to goals of PURPA to encourage the conservation of energy supplied by electric utilities, optimize efficiency of electric facilities and resources, and facilitate equitable rates for electric consumers.

Respectfully submitted,

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July 27, 2009

Veenita Bisaria
Tennessee Valley Authority
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purpa@tva.gov

**Re: Notice of consideration of energy efficiency and Smart Grid standards
Federal Register / Vol. 74, No. 121 / Thursday, June 25, 2009 / p. 30360**

On behalf of the Blue Ridge Environmental Defense League and our members in Tennessee, I submit the following comments on the *Tennessee Valley Authority Staff Report on Preliminary Recommendations on the Four PURPA Standards Under Section 111(d) of the Public Utility Regulatory Policies Act Pursuant to the Energy Independence and Security Act of 2007*.

According to the Federal Register notice of June 25, 2009, TVA staff are gathering information on standards issued under the Energy Independence and Security Act of 2007. These comments will focus on two of the standards under consideration: integrated resource planning and energy efficiency in the context of global warming, the economy and public health.

Principles of a Just and Sound Energy Policy

The Blue Ridge Environmental Defense League has developed the following principles for a just and sound energy policy: 1) Adopt an energy plan which promotes clean, renewable energy sources including wind and solar, 2) Adopt a comprehensive program of energy conservation and efficiency, 3) Eliminate subsidies for new nuclear and coal plants and 4) Prohibit burning of garbage, animal manure, and other waste materials.

Most of the electric power in TVA's service area is provided by coal and nuclear power: fossil-fuel about 60%; nuclear power about 30%. Methane gas burning is included under TVA's Green Power Switch. These three are critically flawed forms of power generation with limited futures. Regarding coal, the Union of Concerned Scientists concluded:

[C]oal-burning power plants are the single largest source of carbon emissions, representing about one-third of the U.S. total—more than those from all our cars, SUVs, trucks, trains, and ships combined (EIA 2008d).¹

¹ *Climate 2030 Blueprint*, Union of Concerned Scientists, (2009) p.57.

EIA2008d citation: Energy Information Administration (EIA), Emissions of greenhouse gases in the United States 2007. DOE/EIA0573(2007). Washington, DC: U.S. Department of Energy. Online at: <ftp://ftp.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/ggrpt/057307.pdf>.

Radioactive pollution from nuclear power is invisible, odorless, tasteless and deadly. In addition to being a public health hazard, nuclear power is expensive. Without federal subsidies, it would not survive. The Congressional Budget Office estimated the historical default rate on nuclear loans amounted to 30% to 50% of capital costs. Finally, nuclear power will not improve greenhouse gas emissions enough to matter and would undermine safer, cleaner, cheaper options. The public monies directed to the overweening nuclear industry would be better spent on less costly, cleaner forms of electric power generation.

The false promise offered by waste biomass is that municipal solid waste, sewage methane, commercial and industrial wastes, and so-called special wastes cannot be dumped in a hopper and burned out of existence. At the high temperatures used in incineration and gasification, toxic metals including cadmium and mercury, acid gases including hydrochloric acid, and ozone-forming nitrogen oxides are released. Also, dioxins and furans are created in the cooling process following the burning of ordinary paper and plastic. These poisons are dangerous at extremely low levels and modern pollution control devices do a poor job of reducing these emissions into the atmosphere. Some including mercury and dioxin are persistent and bioaccumulative; they resist breakdown in the environment and are concentrated in the food chain. Proponents of biomass burners refer to their technology as “carbon neutral” and claim that they are only releasing greenhouse gases that would be released anyway. But waste is not a renewable resource just because we keep making it any more than coal is renewable because we keep mining it. As an alternative, TVA should adopt a “carbon negative” energy policy which invests in truly clean and renewable forms of power such as solar and wind.

Greater Economies are Possible with Efficiency

According to the Union of Concerned Scientists 2009 *Climate 2030 Blueprint*, Tennessee and surrounding states can save billions of dollars by increasing energy efficiency and reducing carbon dioxide (see Figure ES.3 next page).² The huge potential for efficiency is still untapped.

Energy efficiency has already been working hard and providing significant dividends to the U.S. economy for nearly four decades. A recent study found that energy-efficient technologies and practices have actually met three-quarters of all new demand for energy services since 1970 (See Figure 4.2). Over that same period, the energy intensity of the U.S. economy—that is, energy consumption per dollar of economic input—has fallen by more than half, largely because of improved efficiency (Ehrhardt-Martinez and Laitner 2008). Yet despite these important successes, energy efficiency is an underused resource in the United States. A massive reservoir of potential energy efficiency remains untapped, ready to contribute to the challenge of reducing our carbon emissions.³

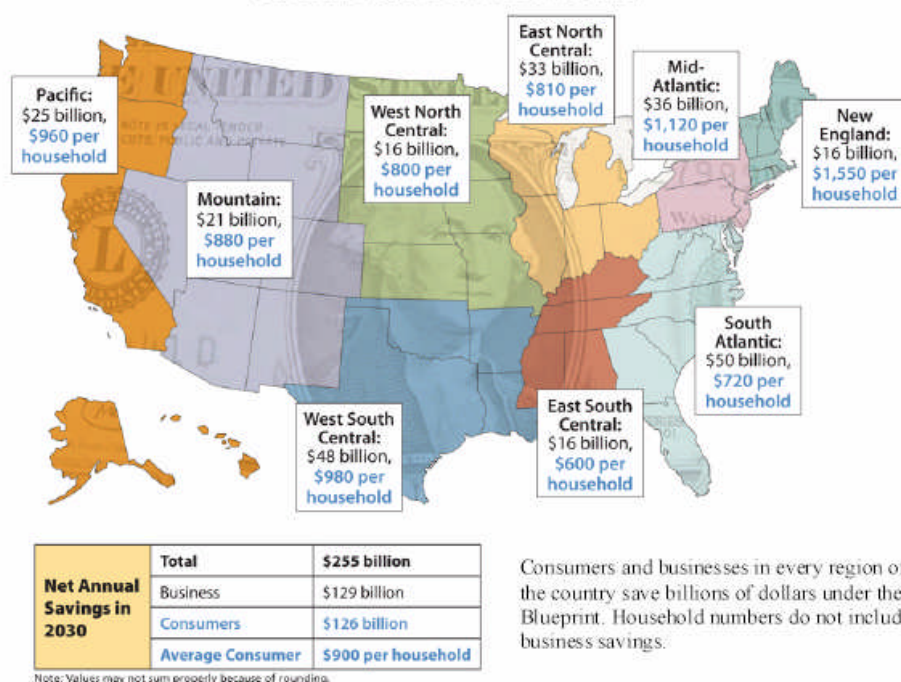
² *Climate 2030 Blueprint*, Union of Concerned Scientists p.xii

³ *Ibid*, p.43

Regarding energy efficiency, UCS concludes:

Energy efficiency is the quickest, most cost-effective strategy for delivering significant and sustained cuts in carbon emissions. Innovative technologies and commonsense measures are available now, and can transform how our industries and buildings use energy over the next two decades. However, the nation needs to implement a suite of policies that builds on leading experiences at the state and federal level, to remove key barriers and stimulate investment. Once implemented, these policies can reduce total U.S. energy consumption by 29 percent by 2030 while providing significant cost savings to consumers.⁴

Figure ES.3. Net Consumer and Business Savings
(by Census Region in 2030, in 2006 dollars)



Please find attached to these comments a chapter from the UCS's *Climate 2030 Blueprint*, "Where We Work, Live and Play: Technology for Highly Efficient Industry and Buildings" which provides greater detail on energy efficiency standards.

Solar Valley Coalition Common Ground

The Blue Ridge Environmental Defense League supports the targets developed by the Tennessee-based Solar Valley Coalition.⁵ The SVC's overall aim is "to reduce the need

⁴ *Ibid*, p.51

⁵ Solar Valley Coalition, <http://www.solarvalleycoalition.net>

for electricity by at least 2.5% each year until TVA is the most energy efficient region of the U.S.” The common ground is:

1. Develop a transparent process to identify the true costs and benefits of power generation and conservation / efficiency.
2. Learn from what other utilities are doing to avoid new plant construction.
3. Repeat what TVA did in the late 1970s and early 1980s to reduce the energy demand so dramatically that TVA cancelled construction of eight n-plants.
4. Partner with customers and citizens in developing new projections for declining demand.
5. Set energy conservation and efficiency goals to achieve the electricity demand reduction through encouraging energy efficiency in building design, landuse, efficient technologies, and expanded cogeneration)
6. Set renewable energy goals of 5% by 2013 and 10% by 2018 to displace the demand for electricity
7. Expand TVA’s comprehensive consumer education.
8. Offer incentives to residential, commercial, industrial, and transportation sectors to reduce energy use. Sell energy efficiency as money saved.
9. Use smart technologies Valley-wide to encourage consumers to reduce energy consumption during peak periods.
10. Alter the rate structure to encourage less consumption.
11. Focus on reduction of electricity transmission losses.

Thank you for the opportunity to present our views. Please add me to your contact list.

Respectfully,



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Attachment

Climate 2030: A National Blueprint for a Clean Energy Economy, Chapter 4
Cleetus, Clemmer and Friedman
Union of Concerned Scientists
May 2009

From: lgorenflo@gmail.com
Sent: Monday, July 27, 2009 9:41 AM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Monday, July 27, 2009 at 09:40:49, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/27/2009 9:40

Name: Louise Gorenflo
Company: Solar Valley
Comment on: Integrated Resource Planning
Comment on: Smart Grid Information
Comments: Solar Valley Coalition
www.solarvalleycoalition.net

July 27, 2009

Sender's Telephone: 931-484-2633
Sender's E-mail: lgorenflo@gmail.com

VIA the Web: (www.tva.com/purpa)

Veenita Bisaria,
TVA
400 W. Summit Hill Drive, WT3D-K
Knoxville, TN 37902

RE: Tennessee Valley Authority's (TVA) consideration of Energy Efficiency and Smart Grid Standards listed in section 111(d) of the Public Utility Regulatory Act of 1978 (PURPA) as amended by the Energy Independence and Security Act of 2007 (EISA.)

Dear Ms. Bisaria:

Please confirm that you have received these comments.

Enclosed please find comments submitted on behalf of the Solar Valley's Citizen Integrated Resource Plan Project in response to Federal Register Notice of June 25, 2009 on standards in the federal Energy Independence and Security Act of 2007.

Please let me know if there are any questions or problems regarding this submission.

Very truly yours,

Louise Gorenflo
Coordinator

Comments Submitted on Behalf of Solar Valley's Citizen IRP Project
Tennessee Valley Authority's (TVA) consideration of
Energy Efficiency and Smart Grid Standards listed in section 111(d) of the
Public Utility Regulatory Act of 1978 (PURPA) as amended by the Energy
Independence and Security Act of 2007 (EISA)

Submitted by Louise Gorenflo, coordinator, Solar Valley Citizens Integrated
Resource Plan Project, July 27, 2009

The Solar Valley Citizens Integrated Resource Plan Project submits these
comments regarding the following standards, as required to be considered by
the Public Utility Regulatory Act of 1978 (PURPA) (Pub. L. 95-617), as amended
by the Energy Independence and Security Act of 2007 (EISA) (Pub. L. 110-140):

1. Integrated Resource Planning
2. Rate design modifications to promote energy efficiency investments
3. Consideration of smart grid investments
4. Smart grid information

These standards are to be considered in the context of achieving the following
purposes of PURPA:

- I. To encourage the conservation of energy supplied by electric

utilities

- II. To optimize efficiency of electric facilities and resources; and
- III. To facilitate equitable rates for electric consumers

PURPA Standard 1. Integrated Resource Planning: Each electric utility shall (A) integrate energy efficiency resources into utility, State, and regional plans; and (B) adopt policies establishing cost effective energy efficiency as a priority resource.

We strongly encourage TVA to adopt this standard as written.

The need to adopt policies that establish energy efficiency as a priority resource is self-evident. TVA has barely brushed the surface of economic energy efficiency potential. Other utilities across the country have adopted a variety of policies and programs to significantly increase investments in efficiency, developing comprehensive energy efficiency portfolios that include traditional efficiency measures, demand response measures, as well as clean energy solution that include combined heat and power and distributed renewable generation. Utilities have consistently achieved annual energy savings of 1.0 to 1.5 percent or more of annual retail sales.

If TVA could achieve 1.0 percent annual efficiency savings in their electric portfolios each year through 2020, Valley consumers would save millions of megawatt hours of electricity and millions of tons of greenhouse gas emissions. These savings would benefit homeowners trying to pay utility bills in a tough economy, help businesses stay competitive, and assist TVA in avoiding expensive investments in new generation and anticipated federal energy policy that limits greenhouse gas emissions.

TVA staff did not mention that its residential electrical energy use has the highest intensity nationally. Our consumption levels are 50 percent more than the national average. The metric to measure any TVA energy efficiency program is to reduce intensity of electricity use in homes and industry across the Valley. That is the challenge that faces TVA, and it is the one that the consumers of TVA power want the federal corporation to address.

TVA does not integrate energy efficiency and DSM into its utility planning efforts. The most recent publicly available TVA power projection is the one used in the Bellefonte 3&4 application to the NRC. That projection, which justified construction of two nuclear plants, ignored the capacity of energy efficiency and DSM to avoid new plant construction.

TVA does not integrate energy efficiency and DSM into its operations.

Rather than including these two energy options into its power programs, they are both considered as marginal activities within TVA's marketing programs.

TVA Policies and Practices

Integrated Resource Plan

TVA staff use the word sustainable without defining it.

TVA staff says that TVA will engage residents in a dialogue regarding the future of their power and resource agency, but does not allow the residents to frame that dialogue.

TVA staff does not seem to understand the use of the term resource in Integrated Resource Plan. The staff seems to use it to mean the integration of its natural resources and recreational opportunities side of its mission with its power responsibilities. The IRP, for TVA, thus becomes a study in how it reinvents its historic mission. It is unclear if staff understands that resource in IRP means the all the different energy options available to it in meeting power demand.

TVA has translated "coordinated decision making" by its many stakeholders to mean handpicking a group of 15 from various sectors: distributors, ratepayers, residents, business, employees, environmentalists, prospective residents, and those in government at state and local levels. Absent is the engagement of the public in this process in framing the TVA issues and concerns that most affect those who live in the Valley. Absent is the sense of TVA accountability to the people who buy its power.

Power Supply Plan

The PSP is the strategic driver by which operational decisions are made. The critical problem TVA ratepayers have with the PSP process is that TVA has no accountability for it. It is free to pick a set of assumptions and to ignore whatever it wishes. Other utilities have to defend to regulators how they developed their power forecasts. The regulators have staff who can competently analyze these projections. TVA has no accountability to any regulators. No external independent agency has the responsibility to review the power projections. TVA denies the public access to information used to develop the projections, claiming it as proprietary.

Without an independent review of the projections and accountability to regulators, TVA is free to develop a power projection to justify any power construction program it wants. It is free to claim that energy efficiency and other demand side management options cannot significantly reduce the need for

power, as TVA claimed in its application for Bellefonte 3&4.

This lack of review has led TVA into its staggering debt load of \$26 billion, caused by a power projection that justified a massive nuclear power plant construction program. Nobody bothered to check TVA's math.

TVA's lack of true cost accounting allows it to focus on the operating rather than full-cycle costs of power options. Its deep belief is that environmental protection is unaffordable (as in its failure to fix the Kingston coal ash ponds because it cost too much.)

TVA staff may regularly update power projections for internal use, but the public has no access to those updates. The most current one we have was developed for the 2007 submission of the BLN 3&4 application. Granted, overlays for energy efficiency savings were at one point added, but as far as we know, TVA has abandoned its energy efficiency savings promises because of the energy use reduction caused by the economic downturn.

Integration of Energy Efficiency at TVA

TVA erroneously equates energy efficiency with peak load reduction. Peak load reduction reshapes the load curve but does not necessarily reduce overall energy consumption. This incorrect equation is used throughout TVA staff comments. The distinction between the two has been clearly enunciated in the literature of this field, so it is unclear why TVA has chosen to brand its load reduction as energy efficiency. Peak load reduction is important because it avoids the cost of purchasing peak power. But it is disturbing and telling that TVA confuses the two.

TVA's true energy efficiency new programs are token: promotion advertising, a Web site with a free online home energy use audit, and a walk-through home energy audit that costs the consumer \$150.

TVA Energy Efficiency Timeline

TVA proclaimed in its 2007 Strategic Plan that TVA will strive to be a leader in energy-efficient improvement and peak demand reduction.

In February 2008 the TVA Board approved a 7% increase in firm wholesale rates to implement the recommendations of the strategic plan, including funding of the renewed focus on energy efficiency.

In April 2008 TVA received public comments on its Energy and Demand Response Plan Long-term Plan that proposed nine high-level goals for achieving energy efficiency improvement and peak demand reduction across the Tennessee Valley, specifically to:

- Achieve all reasonable demand and energy reductions by 2025;
- Ensure combined program costs per kilowatt are competitive with other generating capacity options;
- Inform and educate all stakeholders;
- Stimulate and transform the marketplace;
- Facilitate the expansion of infrastructure for Advanced Metering Infrastructure (AMI) and Direct Load Control (DLC);
- Support the development of energy-efficiency standards and regulations;
- Provide incentives for demand reduction in conjunction with proper pricing signals;
- Expand and support clean end-use generation; and
- Continue the premium Green Power Switch Program.

The PA Consulting Group conducted a quick analysis of energy efficiency and DSM potential within the TVA service area. Despite repeated requests, the public has not been able to gain access to that analysis. TVA's withholding of this research does not serve well its customers (meaning ratepayers as opposed to distributors) as we have been denied critical information needed to understand what we can do to reduce our energy consumptions.

In April 2008 TVA received public comments on its Energy and Demand Response Plan Long-term Plan which included programs for new residential energy-efficiency programs for new and existing homes, HVAC high efficiency replacement incentives program and installer training programs, incentives programs for residential consumers to purchase highly efficient appliance and lighting systems, programs for new commercial energy-efficient programs for new commercial construction and incentives to purchase highly efficient equipment, and a residential load control program.

On May 19, 2008, the TVA Board approved staff recommendations for an Energy Efficiency and Demand Response Plan. In the short term, the plan proposes reducing the growth in peak demand by up to 1,400 megawatts (4,300 GWh) by the end of 2012 fiscal year.

TVA has yet to inform the public how it intends to meet its 1400 MW and 4300 GWh savings by 2012.

Create Ongoing Integration of Energy Efficiency Considerations Across Utility Activities

Apparently, TVA has discarded its promise to reduce energy consumption by 4,300 GWh by 2012. The energy efficiency programs listed in Appendix D of the Staff Report are legacy Energy Right programs developed more than 20 years

ago: New Homes Plan, Heat Pump Plan, and New Manufactured Homes Plan. Instead of putting in place aggressive energy efficiency program to achieve that energy consumption reduction, TVA staff identifies only three new programs:

- Responding to a market transformation in more efficient appliance by adjusting its power projections accordingly.
- \$150 walk-through residential energy audit.
- Consumer education - online survey, website, and school curricula and presentation.

TVA suggests that future energy efficiency programs will be eventually rolled out, but does not specify what they are or the implementation timetable.

TVA staff persists in branding its peak load management programs energy efficiency. TVA's seeming ignorance of the distinction between the two results in an erroneous discussion of how TVA is fulfilling this PURPA standard of ongoing integration of energy efficiency considerations across its activities. Energy efficiency benefits consumers (reduced energy consumption) while peak load reduction benefits utilities. Peak load reduction does not necessarily lead to reduced energy consumption as the same energy consumption levels can be merely displaced to off-peak hours. Utilities benefit because they reduce purchase of expensive peak power while still selling the same amount or more electricity.

Peak load reduction is an important and valuable utility practice for which TVA is aggressively putting in place effective programs. We want to encourage TVA to continue to do so, but we also want TVA to reduce the electric energy intensity of its consumers through an equally aggressive energy efficiency program. We want TVA to reduce energy consumption by 4300 GWh by 2012.

We recommend the following policies:

- An Energy Efficiency Resource Standard requiring 15% electricity savings per capita by 2015, relative to 2008 per capita consumption.
- Extend the electricity savings target by 1.4% of total sales per year from 2016-2025, ultimately reaching savings equal to nearly one-third of TVA's forecasted sales.
- Implement a rebate program for appliances meeting existing federal and state appliance standards, supplemented by a suite of new TVA standards.
- Policies and incentives to encourage new combined heat and power systems in the industrial, institutional, and commercial sectors.
- An energy efficient and renewable energy research, development, and deployment initiative funded by TVA, states, and other partners to meet the service area's unique needs while helping to build a "green collar" energy industry in the region.

- Adoption of a Lifeline rate that allocates the operating cost of the cheapest TVA power to a minimum block of power usage to assist lower income consumers and to reward energy efficiency.

PURPA STANDARD 2: Rate design modifications to promote energy efficiency investments

(A) The rates allowed to be charged by any electric utility shall (i) align utility incentives with the delivery of cost effective energy efficiency; and (ii) promote energy efficiency investments.

This standard focuses on the role of electric rates and rate setting processes in promoting energy efficiency and energy efficiency investments. It proposes that rates be set in a manner that will incentivize cost-effective energy efficiency activities.

TVA staff acknowledges that rates need to be cost-based to consider all resource options on a level playing field. However, it is not clear how TVA defines cost-based.

- Is TVA referring only to the operating cost?
- Is TVA factoring in the life-cycle cost that would include construction, fuel costs, decommissioning and debt service?
- Is TVA using true-cost accounting which would include the social and environmental costs (immediate and long-term) such as degradation of natural resources related to fuel extraction and operation, long-term environmental costs of waste management, and the cost-burden placed on future generations for our current benefit?

Operating, life-cycle, and true-cost accounting all need to be considered when comparing resource options. If consumers paid the true-cost of coal-based electricity, most of us would find it unaffordable. By externalizing the true costs of coal and nuclear power production, TVA can make the judgment that energy efficiency and renewable energies are unaffordable.

TVA should be required to use true-cost accounting when comparing resource options.

We support TVA's progress developing rate structures that incentivize reduction of peak use. However, TVA persists in labeling demand side management with energy efficiency. DSM does not necessarily lead to energy conservation, merely displacing in time the energy use.

We want TVA to develop rate structures that incentivize energy efficiency. The Lifeline rate structure would do that. TVA could allocate its cheapest

power source (hydro) to the first block of energy used, and then increase rates as energy use increased. The ascending block rate structure promotes energy efficiency as it penalizes intense energy use and rewards energy efficiency. It also assists lower income households, consumers on whom TVA should target for additional energy efficiency programs to help them reduce energy use.

Dangerously, in its equation of energy efficiency with DSM, TVA states that energy efficiency activities simply involve varying use patterns without making any investments in new equipment or technologies. Granted, many energy efficiency activities are no-low cost (such as changing behavior), but other energy efficiency strategies do require investments - weatherization, appliances, building design, CHP, and monitoring. TVA and its distributors lack incentives to reduce the energy consumption of its consumers, the classic split-incentive dilemma.

(1) Removal of throughput incentives and other regulatory and management disincentives to energy efficiency. TVA and its distributors killed TVA's aggressive energy conservation programs in the 1980s and resist such programs today because of the management disincentives to energy efficiency. Reduced power sales translate into lower revenue for the distributors and TVA. Unless TVA and the distributors openly acknowledge this critical problem, then TVA will continue to soft pedal energy efficiency. TVA, its distributors, and customers need to understand the reallocation of fixed cost recovery to sales units will be necessary for TVA and the distributors to be made whole.

TVA downplays tension it has with distributors about implementing true energy efficiency programs - those that will lead to a reduction in power consumption, not just peak use. We have no evidence that distributors have reduced their antipathy for energy efficiency programs.

The TVA Office of Inspector General in June 31, 2006 report wrote: "We believe there is an increasing inherent conflict in TVA serving as a regulator while working to ensure good customer (distributor) relations." TVA's dual role of wholesale energy generator and regulator of both itself and its distributors is not working to benefit the people of TVA's service area. TVA cannot afford to make its distributors unhappy, compromising TVA's role as a regulator. The TVA OIG concludes, "It is likely that the increasing demands of distributors upon TVA will increase the conflict for TVA."

This conflict can be resolved by Congress removing TVA from the role of a regulator of itself and its distributors. Until then, the people of the TVA service area will be held hostage by the distributors' unwillingness to reduce

their revenue due to energy efficiency programs and TVA's inability to make them do so.

(2) Provide utility incentives for the successful management of energy efficiency programs. TVA distributors have barriers to implementing energy efficiency programs and distributed renewable energy. Until TVA and the distributors and openly acknowledge these barriers, we will not have effective energy efficiency utility programs in the region. Distributors should be incentivized and rewarded for successful energy efficiency programs, but until TVA and/or the distributors set a significant goal to reduce the intensity of electricity use, then we will not have true energy efficiency programs.

(3) Include the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that energy efficiency must be balanced with other objectives. Demand side management does not equal energy efficiency. Adoption of a Lifeline rate would meet this goal. TVA currently does not have retail rate designs that incentivize energy efficiency (reduction of overall energy use, not just time of use) nor, as far as is known, does it plan to have one.

(4) Adopting rate designs that encourage energy efficiency for each customer class. Incentivizing off-peak use is a rate design that TVA has made progress in implementing. However, this is not a rate design that encourages energy efficiency. For a truly energy efficient rate structure, TVA needs to replace its current rate structure with one in which customers pay more for greater use of electricity.

Energy efficient designed rate structures need to apply to all classes of customers, from the largest to the smallest. A Lifeline rate would be an important first step.

(5) Allowing timely recovery of energy efficiency-related costs. Certainly, many energy efficiency strategies, especially the low-hanging fruit, have a short payback. However, research finds that as the payback time grows longer, the reluctance of decision-makers to invest in energy efficiency grows. A conclusion is that decision-makers often have unrealistic expectations that energy efficiency investments should have short paybacks even though other forms of energy investments have a much longer (if ever) payback. Energy efficiency strategies that involve infrastructural changes should be expected to have a much longer payback. We support TVA's finding that it is appropriate to allow rate increases to cover near-term investments that provide long-term paybacks.

(6) Offering home energy audits, demand response programs, publicizing the financial and environmental benefits of energy efficiency, and publicizing Federal and State incentives including availability of loans.

- TVA's home energy audit program currently costs homeowners \$150. Lower income households cannot afford to participate in this program. The cost of the home audit is a self-funding mechanism for the program. It is hard to believe that TVA picked this approach to be among the very small number of new energy efficiency programs.
- Demand response programs are the primary focus of TVA demand side management programs.
- TVA has had some print and TV ads promoting benefits.
- We have no knowledge of TVA publicizing Federal and State incentives including availability of loans.

Ever since its promise to reduce energy consumption in the TVA service area by 4,300 GWh by the end of 2012 fiscal year, TVA has become largely silent around energy efficiency. It has conducted one energy efficiency study after the next without implementing any substantial program that will achieve the 2012 goal.

PURPA Standard 4 - Smart Grid Information

We recommend that TVA require (rather than recommend) distributors to include on monthly bills information on the amount of greenhouse gas emissions that TVA generated for the power consumed by the bill payer. This could be stated simply on the bill with a reference to a TVA or distributor website for more information on how that calculation was made and ways consumers can reduce GHG.

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General Counsel
CARLOS C. SMITH

July 24, 2009

Ms. Veenita Bisaria
Tennessee Valley Authority
WT-3D
400 W. Summit Hill Drive
Knoxville, TN 37902

Dear Ms. Bisaria:

On behalf of the Tennessee Valley Public Power Association, Inc. (TVPPA) I am submitting the enclosed comments and respectfully ask that they be included in the official record of proceedings related to PURPA Standard Hearings.

If you have questions or need clarification, please don't hesitate to contact me.

Regards,

Jack W. Simmons
President & CEO
TVPPA

Enclosure

*An organization of municipally and cooperatively
owned electric power systems purchasing power
from the Tennessee Valley Authority.*

BEFORE THE

: IN RE:

TENNESSEE VALLEY AUTHORITY

:
:
: PURPA STANDARD HEARINGS

TO: Tennessee Valley Authority
400 West Summit Hill Drive, WT3D-K
Knoxville, Tennessee 37902
Attention: Veenita Bisaria

RE: Proposed Standards on Energy Efficiency and Smart Grid

DATE: July 24, 2009

The Tennessee Valley Public Power Association, Inc. ("TVPPA") in response to a notice in the *Federal Register* of Tuesday, December 16, 2008, files these comments with the Tennessee Valley Authority to become a part of the record in these proceedings.

TVPPA is an association representing the interest of 158 municipal and cooperative distributors of power purchased at wholesale from the Tennessee Valley Authority ("TVA"). Each member of TVPPA receives almost all of its revenues and income from the sale of the electricity produced and sold to them at wholesale by TVA by selling and distribution to the ultimate end-user. Therefore, TVPPA and its members have a vital interest in the outcome of these proceedings.

TVPPA has prepared and is filing these comments in the belief that its views, developed and adopted through its Committee structure and authorized by its Board of Directors, will be beneficial to the TVA Board and management in this proceeding. The positions presented here by TVPPA reflect, to the best of our knowledge, a composite of the views of the distributors as presently known or learned through the TVPPA Board and Committee processes. Nevertheless, should any member of TVPPA differ in its views and file its own statement as part of these proceedings, and that may, in part, conflict with the views stated here, then TVPPA's comments should not be deemed to represent that particular distributors views to the extent of such inconsistency.

TVA staff, in the comments it filed in this proceeding, stated that it may have amended the wholesale power contract of three or four distributors of power with respect to the extent which TVA has rate regulatory authority over the retail rates established by those distributors for the sale of electrical power and energy to their customers. TVPPA through its Rates and Contracts Committee is only involved in contractual matters between TVA and distributors that are uniformly applicable to all TVPPA members. Therefore TVPPA is not typically involved in contract negotiations unique to a particular TVPPA member distributor. TVPPA's comments should be considered with the understanding that its comments focus upon those members for whom the rate regulatory structure is substantially in accord with the standard provisions in TVA's wholesale power contract with substantially all of the other distributors of power.

In addition, under the Public Utility Regulatory Policies Act, and specifically 26 U.S.C. § 2612, the State Regulatory Authority as defined in PURPA, here TVA, has jurisdiction under PURPA with respect to any electric utility which has total sales of electric energy, other than for resale, exceeding 500,000,000 kilowatt-hours during any calendar year after 1975, and before the immediately preceding calendar year. In making its comments as the Association representing the interests of the 158 distributors of TVA power, any comments made by TVPPA in this proceeding are not a waiver of any right of any TVPPA member to claim that any standard that is implemented is not effective as to it because that TVPPA member is excluded from the requirements of PURPA or any state regulatory action under the authority of PURPA.

In these comments, TVPPA will address the standards on (1) Integrated Resource Planning; (2) Rate Design Modifications to Promote Energy Efficiency Investments; (3) Consideration of Smart Grid Investment; and (4) Smart Grid Information.

TVPPA will comment on each standard separately, as follows.

STANDARD 1
INTEGRATED RESOURCE PLANNING

THE STANDARD UNDER CONSIDERATION IS:

(1) *Integrated Resource Planning.*

Each electric utility shall—

(A) Integrate energy efficiency resources into utility, State, and regional plans; and

(B) Adopt policies establishing cost-effective energy efficiency as a priority resource.

TVPPA Recommendation on Standard 1:

Much has been written by numerous authors about the merits and various considerations with regard to integrated resource planning generally, both with respect to the utility benefits as well as ratepayer benefits. Indeed, in prior years TVA has conducted and implemented integrated resource planning principles with distributor representation on committees for some of those planning processes.

With pride, TVPPA members have distributed reliable and affordable electricity generated by TVA to their local customers and members, consisting of approximately 9,000,000 people and 650,000 businesses in Tennessee and parts of six surrounding states, except for those approximately 50 large industrial customers and federal installations with whom TVA directly contracts to provide electrical power and energy services. Under this arrangement, the ultimate end-users of the electrical power and energy are the customers of municipal and cooperative distributors of TVA power, rather than the customers of TVA. That is consistent with the purposes of the TVA Act, Sections 11 and 12(a).

It is therefore appropriate for substantial involvement by the distributors of power along with TVA as both TVA and the distributors, through TVPPA or separately, engage in an integrated resource planning process to permit both TVA and the distributors of TVA power to plan to supply the future demand for distributors to assure the delivery of electrical service to

their customers. The development of a Power Supply Plan should be not only to both conserve power and efficiently use it, but also to provide for future construction and use of efficient and economically-operated generation facilities to serve the electrical needs of the TVA region at the lowest feasible cost. TVPPA members are committed to that ultimate objective.

In the Power Supply Planning process, it is respectfully suggested that TVA and distributors of power jointly and actively participate in planning, ownership and operation of power generation assets of all kinds, whether baseload generation, renewable energy in various forms, or peak generation facilities. TVPPA believes there are circumstances under which distributor-owned generation, through the distributor-owned Seven States Power Corporation, can be utilized to assure that power in the TVA region is generated, transmitted and distributed reliably at rates as low as possible, and with a view toward conservation of energy in an environmentally sound way. The integrated resource planning process should fully embrace principles that distributors of power collectively have the capability and resources through Seven States Power Corporation, its affiliates and related organizations, to help secure adequate sources of financing for ownership and construction of generation facilities at favorable rates to benefit the citizens, businesses and governments of the TVA region.

Historically, TVPPA and its members, together with TVA, have initiated and been engaged on a cooperative basis to develop a cost-effective supply of energy in the most efficient method as possible, including supply-side resource options. These initiatives have included an objective for the development of new and renewable sources of generation with the least harmful impact upon the environment, as well as programs to help consumers conserve their use of electrical energy.

TVPPA believes that TVA should continue current policies and procedures, and also explore options for additional policies and procedures, to provide the most cost-effective energy options to the TVA region, all as recommended by the TVA staff findings and conclusions on

Standard 1. Therefore, TVPPA recommends that the TVA Board of Directors adopt Standard 1 in the form proposed by the TVA staff.

STANDARD 2
RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY

THE STANDARD UNDER CONSIDERATION IS:

(2) *Rate Design Modifications to Promote Energy Efficiency.*

Investments.—

(A) In General. —The rates allowed to be charged by any electric utility shall—

(i) Align utility incentives with the delivery of cost-effective energy efficiency; and

(ii) Promote energy efficiency investments.

(B) Policy Options.— In complying with subparagraph (A), each State regulatory authority and each non-regulated utility shall consider—

(i) Removing the throughput incentive and other regulatory and management disincentives to energy efficiency;

(ii) Providing utility incentives for the successful management of energy efficiency programs;

(iii) Including the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that energy efficiency must be balanced with other objectives;

(iv) Adopting rate designs that encourage energy efficiency for each customer class;

(v) Allowing timely recovery of energy efficiency-related costs; and

(vi) Offering home energy audits, offering demand response programs, publicizing the financial and environmental benefits associated with making home energy efficiency improvements, and educating homeowners about all existing Federal and State incentives, including the availability of low-cost loans, that make energy efficiency improvements more affordable.

TVPPA Recommendation on Standard 2:

TVPPA has reviewed the proposed standard on rate design modifications to promote cost-effective energy efficiency and energy efficiency investments. Consistent with the TVA Act provisions, power generated by TVA shall be sold at rates as low as feasible. That principle is also established in the wholesale power contract between TVA and TVPPA members. The members of TVPPA have from the very beginning operated the electric distribution systems in providing service to the ultimate user consistent with those purposes. Standard 2, because it describes policy options that would include “disincentives to energy efficiency” and mandates

certain energy efficient programs, seems to be more directed toward private investor-owned electric utilities whose mission is to earn a rate of return for its shareholders in excess of that to purely recover the cost of electrical service, rather than public power providers such as TVA and TVPPA members.

For decades, TVPPA members, working together with TVA, have encouraged and developed a variety of energy conservation measures that are incentives, rather than disincentives, to conserve electricity. These programs focus on energy conservation improvements by the ultimate end-user (including low-cost financing) such as home insulation programs, the offering of home energy audits, as well as audits for businesses and governments, and a continuing education program.

Presently, TVA and TVPPA members and staff are in discussions for the development of a variety of measures to not only continue existing programs, but to improve upon those, including the potential benefits for Smart Grid Application (discussed later in this statement). The TVA staff and TVPPA, acting through its Rates and Contracts and Energy Services Committees, are each actively engaged with these projects. All of these proceedings historically, and on a continuing basis, are consistent with Standard 2.

Consequently, TVPPA believes the interests and views of the majority of our members are supportive of the concepts and objectives put forth in Standard 2 and therefore concurs with the TVA staff in its recommendation that Standard 2 be adopted, and that the various policy options established in the Standard be considered in the ongoing discussions between TVA and distributors regarding rate changes and energy efficient programs.

STANDARD 3
CONSIDERATION OF SMART GRID INVESTMENTS

THE STANDARD UNDER CONSIDERATION IS:

(3) *Consideration of Smart Grid Investments.*—

(A) In General.— Each State shall consider requiring that, prior to undertaking investments in nonadvanced grid technologies, an electric utility of the State demonstrate to the State that the electric utility considered an investment in a qualified smart grid system based on appropriate factors, including--

- (i) Total costs;
- (ii) Cost-effectiveness;
- (iii) Improved reliability;
- (iv) Security;
- (v) System performance; and
- (vi) Societal benefit.

(B) Rate Recovery.— Each State shall consider authorizing each electric utility of the State to recover from ratepayers any capital, operating expenditure, or other costs of the electric utility relating to the deployment of a qualified smart grid system, including a reasonable rate of return on the capital expenditures of the electric utility for the deployment of the qualified smart grid system.

(C) Obsolete Equipment. —Each State shall consider authorizing any electric utility or other party of the State to deploy a qualified smart grid system to recover in a timely manner the remaining book-value costs of any equipment rendered obsolete by the deployment of the qualified smart grid system, based on the remaining depreciable life of the obsolete equipment.

TVPPA Recommendation on Standard 3:

TVPPA has reviewed the TVA staff analysis and recommendation on Standard 3, “Consideration of Smart Grid Investments.” TVPPA concurs with the TVA staff recommendation that Sections (B), Rate Recovery, and (C), Obsolete Equipment, are inapplicable to the integrated system of TVA and the distributors of TVA power with respect both to the TVA and to the municipal and cooperative distributors of TVA power represented by TVPPA. Distributors of power operate without profit, the same objective in distributing power as TVA has under the TVA Act. More specifically, TVPPA members operate their electrical

distribution systems on a cost basis at the lowest feasible cost, all as established as a rate principle in the wholesale power contract between TVA and the members of TVPPA.

The governing boards and management of TVPPA members already consider the factors listed in Part (A) of Standard 3 in the making of investments and the operation of the electric system. Cost-efficiency and effective delivery of power, whether for non-advanced grid technologies or, for that matter, for any expenditure of funds, TVPPA members are consistently in good faith adopting the most cost-feasible technology in the investment and reinvestment of the electric distribution systems over which they have responsibility as stewards for the public they serve. The elements outlined in Section (A), though established by federal law in 2007, are for electric utilities as to total cost and the best interest in the provision of low-cost reliable electrical service to the customer focusing upon choices for grid technology. Principles to operate an electric utility on the most economical basis and using the most efficient technology and equipment are not new to TVA and members of TVPPA. TVPPA members consider these principles as they replace equipment and facilities or make investments of new infrastructure used in the operation of their electrical distribution systems. Those principles and considerations have been the very foundation of the operations of the municipal electric systems and rural electric cooperatives for the decades since they were created and organized to serve the electric needs of their communities.

For the foregoing reasons, TVPPA concurs with the TVA staff recommendations that only Section (A) of Standard 3 be adopted by the TVA Board.

STANDARD 4
SMART GRID INFORMATION

THE STANDARD UNDER CONSIDERATION IS:

(4) *Smart Grid Information.*

(A) Standard.—All electricity purchasers shall be provided direct access, in written or electronic machine-readable form as appropriate, to information from their electricity provider as provided in subparagraph (B).

(B) Information. —Information provided under this section, to the extent practicable, shall include:

(i) Prices. —Purchasers and other interested persons shall be provided with information on (I) time-based electricity prices in the wholesale electricity market; and (II) time-based electricity retail prices or rates that are available to the purchasers.

(ii) Usage. —Purchasers shall be provided with the number of electricity units, expressed in kwh, purchased by them.

(iii) Intervals and projections. —Updates of information on prices and usage shall be offered on not less than a daily basis, shall include hourly price and use information, where available, and shall include a day-ahead projection of such price information to the extent available.

(iv) Sources. —Purchasers and other interested persons shall be provided annually with written information on the sources of the power provided by the utility, to the extent it can be determined, by type of generation, including greenhouse gas emissions associated with each type of generation, for intervals during which such information is available on a cost-effective basis.

(C) Access. —Purchasers shall be able to access their own information at any time through the Internet and on other means of communication elected by that utility for Smart Grid applications. Other interested persons shall be able to access information not specific to any purchaser through the Internet. Information specific to any purchaser shall be provided solely to that purchaser.

TVPPA Recommendation on Standard 4:

TVPPA and its members have been diligently engaged in recent years in studying the ongoing developments of Smart Grid electrical systems and the types of information that can be communicated to the electric utility and its customers. However, as with all emerging technologies, there have been numerous alternative types of equipment and methods for obtaining and recording information on electrical usage both with regard to amount, time-of-use, and frequency of usage. Though much Smart Grid equipment has been developed and is

available in the marketplace, there is also Smart Grid equipment still in development with various capabilities. There appears not to be any uniform standard at the present time with respect to the most cost-effective method to provide to electricity purchasers the kind of information contemplated under Standard 4 of PURPA. Also, much of the equipment and technology available is still in the pilot testing stage to determine effectiveness from both a cost standpoint as well as a conservation standpoint.

As previously stated with respect to other Standards, TVPPA members endeavor to provide electrical service to the electricity purchasers in the most reliable form and at the lowest cost. Providing useful information to electricity purchasers on a timely basis to allow the wisest customer choice as to the use of electricity would be desirable, and consistent with the objectives and mission of TVPPA and its members. However, flexibility is needed as the technology and capabilities of the various devices and equipment continue to be developed and tested to both obtain and provide to the electricity purchasers the information of the type envisioned by Standard 4. Flexibility is also needed so that each member of TVPPA may take into consideration its particular needs and characteristics of its customers, overall costs, effectiveness, and other considerations that a distributor must make as to its needs and resources as well as those of its customers.

Adoption of a standard uniformly applicable to all distributors would distinguish the most appropriate standard for the larger systems such as Memphis, TN, Light, Gas & Water Division or Nashville, TN, Electric Service that also considers smaller distributors such as a Chickamauga, GA, Electric System or Courtland, AL, Electric Department. The financial, operating and demographic characteristics of the distributors of TVA power vary widely. As a result, should Standard 4 be adopted and enacted in its entirety as stated in the 2007 Federal Act, there is substantial concern by TVPPA that there would be insufficient flexibility for a

practicable application to the diverse characteristics most needed and suited for the 158 TVPPA member systems.

TVPPA has reviewed the modified Standard as proposed by Staff in its June, 2009 filing. TVPPA concurs that based upon the information presently available and anticipated future developments of additional technologies, and the varying characteristics among the 158 TVPPA members, that Standard 4 should be adopted by the TVA Board of Directors in the modified form as recommended by the TVA staff.

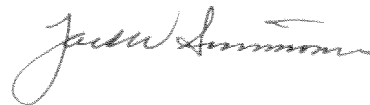
CONCLUSION

For the foregoing reasons as to each particular Standard, TVPPA urges the TVA Board to take actions on each of the Standards consistent with the recommendations of TVPPA as stated herein.

Respectfully submitted,

TENNESSEE VALLEY PUBLIC POWER ASSOCIATION, INC.

By:



Jack W. Simmons
President & Chief Executive Officer

From: strange@esper.com
Sent: Wednesday, July 15, 2009 3:33 PM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Wednesday, July 15, 2009 at 15:33:07, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/15/2009 15:33

Name: Ann Strange
Comment on: Integrated Resource Planning
Comment on: Consideration of Smart Grid Investments
Comment on: Smart Grid Information
Comments: I strongly encourage TVA to implement these four standards. These standards are appropriate and necessary for the Tennessee Valley Authority. They will encourage conservation and cost-effective energy efficiency if adopted. A rate structure that encourages and rewards saving energy will allow citizens to conscientiously see how their choices affect the structure. I certainly do not want to see conservation used as an excuse to raise rates.

Implementing the rate structure, smart grid, and providing hourly usage information will change the way energy is seen and used and will benefit all the ratepayers and utilities in the TVA area. Thank you for your consideration.

Street Address: 307 Lake Forest Drive
City: Knoxville
State: TN
Zip: 37920
E-mail: strange@esper.com

From: steve.green.bama@gmail.com
Sent: Tuesday, July 14, 2009 12:57 PM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Tuesday, July 14, 2009 at 12:57:06, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/14/2009 12:57

Name: William Green

Company: none

Comment on: Integrated Resource Planning

Comments: To my knowledge, there is not a home energy auditing business, or program for the Florence area. I think it would be a good idea that aligns with the "Integrated Resource Planning" section, that TVA, Local State Agencies, and/or local Utilities, develop a plan to provide local customers with the ability to have home energy audits performed at their residence. This could be by recommending a local company or companies that provide this service, create a cooperative to initiate a new business in the area to provide these services, and allow the homeowners to add the cost of the audit to their utility bill, to be disseminated across a 12 month period of payments for example. TVA should provide information to the public on how, where, how much, etc, to get a home energy audit. Maybe it would be a good idea to acquire some of the billions of dollars of "The Recovery Act of 2009", in order to provide startup grants for such businesses, or some sor!

t of program locally. In closing, the shoals area residents need to have the option to take an active role in cleaning our environment. We need a system for Home Energy Audits, or someone needs to start a business doing such, a business that TVA will cooperate with to help offset customers costs. This will result in decreased "Peak-Hour" demand from TVA, it will decrease costs for both the Power Provider, and for the customer. Thank you for your consideration.

Street Address: 90 Central Ave

City: Florence

State: Al

Zip: 35633

E-mail: steve.green.bama@gmail.com

From: tvainfo@tva.gov
Sent: Thursday, July 09, 2009 11:05 AM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Thursday, July 9, 2009 at 11:04:57, the following data was submitted from
<http://www.tva.gov/purpa/comments2.htm>

7/9/2009 11:4

Name: Ruben Crosslin
Comment on: Rate Design Modifications to Promote Energy Efficiency Investments
Comments: I'm concerned that the "Rate Design Modifications" would essentially be nothing more than an easy way to enact a rate increase on consumers. On the one hand, the idea sounds good if one is considering an relatively easy decision to operate a clothes drier during non-peak hours. On the other hand, heating and cooling a residence is driven by the weather, not the convenience of the consumer. In other words, the need to heat or cool a residence is typically demonstrated during peak demand.
Street Address: 425 W.N. Creek Road
City: Smyrna
State: TN
Zip: 37167

From: djackson34@juno.com
Sent: Tuesday, July 07, 2009 10:34 PM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Tuesday, July 7, 2009 at 22:33:44, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/7/2009 22:33

Name: Douglas
Company: Gulf Park Recreational Assoc., Inc.
Comment on: Rate Design Modifications to Promote Energy Efficiency Investments
Comments: I totally support these actions, expecially the use of "time of use" meters.
Street Address: 528 Pensacola Road
City: Knoxville
State: TN
Zip: 37923
E-mail: djackson34@juno.com

From: wtledford@hotmail.com
Sent: Tuesday, July 07, 2009 1:51 PM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Tuesday, July 7, 2009 at 13:51:00, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/7/2009 13:51

Name: William Ledford
Company: Private Citizen
Comment on: Rate Design Modifications to Promote Energy Efficiency Investments
Comments: Please understand I am just an average citizen that doesn't know all the complexities involved in power generation and appreciate the dedicated employees of TVA for making sure that when the switch is flipped my light comes on. I am all for TVA being as energy efficient as possible (produce the most energy for the least cost)however; when it comes to rate structure the simpler the better. A rate structure that takes on the complexity of the standard health care plan will confuse and alienate customers. Some customers may not be able to take advantage of shifting power usage to different times while others can. As I read the document it sounds to me that the rate structure should be revenue neutral. Normally that means to offer discounts in one time period there will have to be an increase in another time period. Not good. I can see where this is going. I trust that smarter minds than mine at TVA will figure out a rate structure that is simpl!

e to understand and won't cause the average customer to see an increase in their monthly power bill because he cannot take advantage of the energy efficiency savings options presented. If that happens then this whole thing will be seen as a well designed scheme to increase rates.

Street Address: 2015 Phinney Murphy Rd
City: Culleoka
State: TN
Zip: 38451
E-mail: wtledford@hotmail.com

From: hess_karl@hotmail.com
Sent: Tuesday, July 07, 2009 11:09 AM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Tuesday, July 7, 2009 at 11:09:01, the following data was submitted from
<http://tva.com/purpa/comments2.htm>

7/7/2009 11:9

Name: Karl Hess
Comments: It is simple: promote solar, geothermal, wind, and other alternative energies for individual homes, businesses, and gov't agencies (including TVA) with tax and other incentives!!

Thanks,

Karl
Street Address: 1343 Grainger ave. #2
City: Knoxville
State: TN
Zip: 37917
E-mail: hess_karl@hotmail.com

From: gatorfan99@mac.com
Sent: Tuesday, July 07, 2009 10:42 AM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Tuesday, July 7, 2009 at 10:42:07, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/7/2009 10:42

Name: Steve Beck
Company: Self Employed
Comment on: Rate Design Modifications to Promote Energy Efficiency Investments
Comments: I am strictly against the change in rate design to increase cost during peak times. I home-school my children and my usage probably occurs during those times. Please leave the rate structure as is for residential customers.
Street Address: 6731 Timber Run Lane
City: Knoxville
State: TN
Zip: 37918
E-mail: gatorfan99@mac.com

From: misterbrister@gmail.com
Sent: Tuesday, July 07, 2009 9:14 AM
To: PURPA; Winkler, Todd A; Bisaria, Veenita; Haisley, Susan
Subject: PURPA Comments

On Tuesday, July 7, 2009 at 09:13:41, the following data was submitted from
<http://www.tva.com/purpa/comments2.htm>

7/7/2009 9:13

Name: Joshua Brister
Company: Owen Graduate School of Management
Comment on: Rate Design Modifications to Promote Energy Efficiency Investments
Comment on: Consideration of Smart Grid Investments
Comments: 1. Rate Design Changes. I firmly believe that financial incentives need to be properly aligned for power distributors to take advantage of valuable EE programs. As the rate structure currently stands, distributors are disincented from participating in these programs, as they represent a form of revenue erosion. A distributor cannot be expected to rationally participate in a program which causes them to lose out on contribution margin. By implementing time-of-use or demand base pricing, distributors will have the right incentives to participate in many of TVA's EE and DR programs. Additionally, this will provide an impetus to change the retail rate structures to more closely align with the true cost of generation, transmission, and market power.

2. Smart Grid Investments. Just as more advanced pricing structures are called for in order to reduce consumption and encourage smart energy usage, smart grid technologies are needed to achieve these goals. Without the implementation of TOU meters and 2-way communication, the true potential of energy efficiency and demand reduction cannot be fulfilled.

Street Address: 401 21st Avenue South
City: Nashville
State: TN
Zip: 37205
E-mail: misterbrister@gmail.com

**Comments on Tennessee Valley Authority's (TVA) consideration of
Energy Efficiency and Smart Grid Standards listed in section 111(d) of the
Public Utility Regulatory Act of 1978 (PURPA) as amended by the Energy
Independence and Security Act of 2007 (EISA)**

Submitted by the Southern Alliance for Clean Energy

April 30, 2009

Southern Alliance for Clean Energy respectfully submits these comments regarding the following standards, as required to be considered by the Public Utility Regulatory Act of 1978 (PURPA) (Pub. L. 95-617), as amended by the Energy Independence and Security Act of 2007 (EISA) (Pub. L. 110-140):

1. Integrated Resource Planning
2. Rate design modifications to promote energy efficiency investments
3. Consideration of smart grid investments
4. Smart grid information

These standards are to be considered in the context of achieving the following purposes of PURPA:

- I. To encourage the conservation of energy supplied by electric utilities
- II. To optimize efficiency of electric facilities and resources; and
- III. To facilitate equitable rates for electric consumers

I. Integrated Resource Planning:

Each electric utility shall (A) integrate energy efficiency resources into utility, State, and regional plans; and (B) adopt policies establishing cost-effective energy efficiency as a priority resource.

The Southern Alliance for Clean Energy strongly encourages TVA to adopt this standard as written. In 2005 – 2006, TVA and its distributors achieved energy savings of 0.04% of annual sales, whereas leading utilities are achieving energy savings of 0.4% to well in excess of 1% of annual sales. Given the wide variety of utilities that are achieving these levels of demand reduction, there is ample proof that motivated utilities can achieve high levels of energy savings using energy efficiency programs on a reliable and consistent basis. While TVA has made progress in recent years towards the adoption of effective energy efficiency programs, significant gaps in TVA's planning process continue to hinder this progress and the adoption of this standard would significantly advance energy efficiency in the Tennessee Valley.

TVA's 2007 Strategic Plan states: "Improving energy efficiency and reducing peak demand are significant actions that help slow demand growth in a cost-effective manner while addressing air pollution and global climate change." The Southern Alliance for Clean

Energy agrees that the residents of the Tennessee Valley have a great deal to gain from developing robust energy efficiency programs. Creating energy efficiency programs that can continually increase reductions in overall energy demand over the next 20 years will provide a cost-effective, reliable and environmentally sound new supply of energy for TVA, its distributors and their customers. A key element to effective energy efficiency programs is the integration of energy efficiency into the resource planning process and the consideration of energy efficiency as a priority resource to meet future demand.

It is important that TVA look towards setting into motion organizational structures and a corporate culture that places energy efficiency on equal footing with supply side options, i.e. new power plants. The first step is the formalization of an integrated resource planning process to which this PURPA standard refers. Integrated Resource planning (IRP) is a transparent planning process intended to systematically consider all appropriate supply and demand resources to develop a comprehensive plan to meet current and future load requirements. This process includes monitoring and verification and a process for review and amendment to the plan at regular intervals so that new programs and technologies can be integrated into the mix of alternatives for meeting future demand.

TVA has not completed a resource plan since its 1993 resource planning process pursuant to the provisions of the Energy Policy Act of 1992. This process resulted in TVA's Energy Vision 2020 that identified the need for a flexible range of options and alternatives to meet the region's base-load power supply needs through 2020. However, since that initial planning process, TVA has not conducted any further resource planning and its generation mix continues to be dominated by traditional energy resources such as coal and nuclear power. TVA's failure to revisit their mid-nineties resource planning process has failed the people of the Tennessee Valley, resulting in the Tennessee Valley being one of the most energy intensive regions in the nation.

TVA's 2007 Strategic Plan and 2008 Energy Efficiency and Demand Response Plan should not be considered an adequate substitute for true integrated resource planning. While these plans recognize the need to deliver energy efficiency and demand response programs to consumers of TVA power, this analysis is not provided in the comprehensive fashion that is required by IRP. Nor was the planning process the open and transparent process that PURPA envisions when it speaks of IRP. TVA must first instate a transparent and continuous IRP process so that decisions regarding future energy demands can be made in the most responsible fashion.

TVA should strive to include all stakeholders in a new integrated resource planning process. Because the TVA region encompasses parts of seven southeastern states, it is important that the IRP process include input from these state governments, especially with respect to coordinating efforts on energy efficiency, renewable energy and cost-effective fuel switching to improve efficiency, such as solar hot water and natural gas. In addition, the IRP process should take advantage of the wealth of region-specific knowledge that exists in the Tennessee Valley with respect to environmental and consumer interests, industrial and business representatives, and local governments. By including a diverse

array of stakeholder interests, the IRP process becomes both transparent and comprehensive.

In addition, energy efficiency must be included as a priority resource in this planning process. Available research clearly shows that energy efficiency and conservation programs can deliver energy savings at a price well below that of traditional generation resources. The most recent study completed by Lazard Ltd.¹, one of the worlds most respected investment banks, estimated the cost of delivering energy efficiency to range from zero to five cents per kWh, while the cost of traditional forms of new generation range from 7.5 to over 34 cents per kWh. Further, a study conducted by the Appalachian Regional Commission concluded that states across the nation are meeting one to two percent of their electricity consumption each year with energy efficiency at a cost of approximately 3 cents per kWh compared with costs of 5 cents or higher for electricity from existing coal, gas or nuclear plants. This cost-based analysis shows that energy efficiency can be delivered cheaper than new or existing traditional energy options.

Energy efficiency also provides benefits that other resources do not, such as environmental benefits, reducing customer costs and spurring economic growth, creating more jobs than traditional generation resources, and keeping economic investments within the region. Energy efficiency is a clean, affordable, and feasible energy resource. However, this resource has not been placed in an appropriate framework for evaluating its cost-effectiveness.

Typically, TVA compares the cost of energy efficiency to its average avoided costs (about 5 cents per kWh), its cost of coal generation (about 4 cents), or its marginal avoided costs (3 to 6 cents). Even using this highly conservative value for energy efficiency, utilities that have published studies of energy efficiency potential find that demand can be reduced by over 15% within 5 to 10 years. However, it is widely recognized that the cost of new generation is much higher than these benchmarks; TVA is currently considering building new nuclear capacity that is considered to have a levelized cost of 11 to 15 cents per kWh. TVA should value energy efficiency at the cost of new generation. This levelized cost comparison would make many energy efficiency programs cost-competitive with even the cheapest generation resources.

The integration of energy efficiency into resource planning and its designation as a priority resource will also foster the economies of scale necessary to achieve full cost-effectiveness. Much like building a new coal plant to provide energy for a single home is not cost-effective, implementing pilot programs that are only available to small segments of the population will not achieve the cost effectiveness that larger programs will achieve at economies of scale similar to those used to analyze other resource options.

For all of these reasons, there is a strong rationale for viewing energy efficiency as a priority resource in integrated resource planning processes. Unfortunately TVA continues to make half-hearted attempts at energy efficiency while aggressively pursuing the permits

¹ Lazard Ltd., Levelized Cost of Energy Analysis – Version 3.0. February 2009.

to construct nuclear reactors that will cost ratepayers tens of billions of dollars. The failure to undertake integrated resource planning and refusal to prioritize energy efficiency continues to place the Southeast at a disadvantage to the rest of the nation with regards to wise energy use, greenhouse gas emissions, and economic development.

The Southern Alliance for Clean Energy strongly encourages TVA to officially adopt the PURPA standard being considered here and to initiate a comprehensive integrated resource planning process as soon as possible that includes meaningful input from stakeholders and includes energy efficiency as a priority resource.

II. Rate design modifications to promote energy efficiency investments:

(A) The rates allowed to be charged by any electric utility shall (i) align utility incentives with the delivery of cost-effective energy efficiency; and (ii) promote energy efficiency investments.

Southern Alliance for Clean Energy strongly encourages TVA to adopt this standard as written. There are two elements to this standard in the context of TVA. First, that rates charged to TVA's distributor utilities should incentivize the delivery of cost-effective energy efficiency; and second that rates charged by TVA's distributor utilities should be designed to incentivize the achievement of energy efficiency by end-use consumers of TVA power.

With regard to the first element, TVA should establish rate structures that incentivize the adoption by distributor utilities of cost-effective energy efficiency programs. TVA currently charges its utilities a uniform rate for energy independent of the variable costs of delivering that energy. This rate structure maintains the throughput disincentive for utilities to engage in meaningful energy efficiency programs because reductions in energy demand created by energy efficiency programs lead directly to reductions in revenue. TVA should redesign rates charged to distributors in such a way as to remove this throughput disincentive and provide incentives for the successful management of energy efficiency programs. Such a rate design should allow for recovery of energy efficiency related costs and reward the achievement of aggressive energy efficiency goals.

In order to offer effective and substantial energy efficiency and demand side management programs, electricity distributors need to establish rates that reflect a diminished financial reliance on electricity consumption, favoring instead electric rates that empower customers to make their homes and businesses as energy efficient as possible while keeping their distributor utility financially solvent.

Utilities should be encouraged to develop special services, rates, loan programs, and acquire equipment for delivery of cost-effective energy efficiency and distributed generation programs for customers. The redesign of rate structures applied to TVA's distributors would send a strong signal to distributor utilities that TVA considers energy efficiency to be a priority resource and would serve to remove many of the institutional

barriers to widespread adoption of effective energy efficiency programs by TVA's distributors.

With regard to the second element of this standard, TVA should work with distributors to design rate structures that incentivize the achievement of energy efficiency by end-use consumers of TVA power. Removing declining block rate structures that discourage energy efficiency by decreasing rates as more electricity is consumed is an initial first step. However, rate designs with clear and meaningful price signals to customers, through time- or usage-sensitive rates, can encourage greater energy efficiency from the consumer.

The Southern Alliance for Clean Energy recommends that TVA and its distributors develop rate packages that would:

- Incentivize reductions in overall energy use
- Incentivize reductions in peak energy use
- Pay customers a price for excess energy generated by the customer that accurately reflects the full value of energy displaced at the time the energy is generated.

Rate packages should be offered that utilize time of use structures, reflecting the distributors' and TVA's actual costs of buying or producing energy in real time, or at least in blocks for peak time, shoulder hours, and at base.

TVA's 2008 Draft Energy Efficiency and Demand Response Plan recognizes the need for new rate structures to encourage energy efficiency and provide the price signals to end-use consumers. The pilot programs that TVA has implemented in recent months will begin the evaluation of how best to approach these issues. However, TVA should aggressively pursue rate designs that encourage energy efficiency and peak demand reductions in the long term through an open engagement of end-users and with full participation by the public.

The structure of rates charged for electric power can have a significant impact on how aggressively energy efficiency measures are pursued. Rate structures can indicate to the utility and end-use consumer the value of conservation and demand reduction and also the timing when such activities are most beneficial to the power system. Often, ratemaking practices do not encourage, or could even discourage, utilities from adopting energy conservation measures. The Southern Alliance for Clean Energy strongly encourages TVA to adopt this standard as written and design rate structures that incentivize energy efficiency at both the utility and end-use level.

III. Consideration of smart grid investments:

Each State [TVA as the regulatory authority] shall consider requiring that, prior to undertaking investment in non-advanced grid technologies, an electric utility of the State demonstrate to the State that the electric utility considered an investment in a qualified smart grid system based on appropriate factors, including (i) total costs; (ii) cost-effectiveness; (iii) improved reliability; (iv) security; (v) system performance; and (vi) societal benefits.

Southern Alliance for Clean Energy strongly encourages TVA to adopt this standard as written and require the consideration of investment in qualified smart grid systems before a distributor-utility undertakes investment in non-advanced grid technologies. We encourage TVA to adopt similar criteria as that put forward by the National Association of Regulatory Utility Commissions and the Federal Energy Regulatory Commission concerning smart grid investment. This analysis could then serve the dual purpose of satisfying this PURPA standard and positioning the distributor to take advantage of federal assistance in the development of smart grid technologies.²

The continued investment in non-advanced technologies will significantly diminish the region's ability to adopt energy efficiency and renewable energy technologies. In contrast, the adoption of smart grid technologies will result in lower overall costs to consumers, provide valuable information to consumers about the impacts of their energy choices, allow the integration of new technologies that can reduce overall and peak energy demand, and allow the integration of new lower cost and lesser-polluting energy resources.

Further, the installment of smart grid technologies is an essential element to the widespread adoption of plug-in electric vehicles that will reduce this nation's dependence on foreign oil and significantly reduce greenhouse gas emissions. As the use of plug-in electric and hybrid vehicles increases, new grid interfaces will have to be developed such as outdoor plugs, interfaces tied to timers to take advantage of off-peak rates, solar covered parking areas to recharge cars during the day, or parking lot plugs that allow car batteries to be used as resources to avoid micro-peaks and increase grid stability. By 2020 it is estimated that one-fifth to one quarter of all new cars will be plug-in hybrids. The success of integrating this demand into the electricity grid will require smart grid applications to maximize the off-peak benefits and minimize the on-peak loads.

The benefits of widespread adoption of smart grid technologies cannot be understated. Smart metering capabilities include price-based options such as time-of-use control, real-time pricing and critical peak pricing. Smart metering can also provide incentive based programs such as direct load control, interruptible/curtailment services, demand bidding/buyback programs, emergency demand response programs, and capacity market programs.

In addition, smart grid technologies can increase system reliability by incorporating extensive measurements, rapid communications, centralized advanced diagnostics, and feedback controls that quickly return the system to a stable state after interruptions or disturbances; re-routing power flows, changing load patterns, improving voltage profiles, and taking other corrective steps within seconds of detecting a problem; and enabling distributed resources to participate in operations.

² These recommendations can be found at: <http://www.ferc.gov/industries/electric/indus-act/smart-grid/FERC-NARUC-collaborative.pdf>

In all, advanced metering can be used to help identify and promote energy efficiency opportunities in addition to enhancing system reliability and reducing peak demand. TVA should adopt this standard as written and review considerations of investment in smart grid technologies based on the characteristics of a smart grid as described by Title XIII of the Energy Independence and Security Act of 2007, which include:

- Increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid;
- Dynamic optimization of grid operations and resources, with full cyber-security;
- Deployment and integration of distributed resources and generation, including renewable resources;
- Development and incorporation of demand response, demand-side resources, and energy efficiency resources;
- Deployment of “smart” technologies (real-time, automated, interactive technologies that optimize the physical operation of appliances and consumer devices) for metering, communications concerning grid operations and status, and distribution automation;
- Integration of “smart” appliances and consumer devices;
- Deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric and hybrid electric vehicles, and thermal storage air conditioning;
- Provision to consumers of timely information and control options;
- Development of standards for communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid; and
- Identification and lowering of unreasonable or unnecessary barriers to adoption of smart grid technologies, practices, and services.

By adopting these criteria in its review of smart grid investment potential, TVA will ensure that individual distributors make investment decisions in a way that provides the maximum benefits to end-use consumers and minimizes inefficiencies caused by the adoption of different or outdated technologies.

The Southern Alliance for Clean Energy strongly encourages TVA to adopt this standard as written and to adopt the “technology plan” alternative to a case-by-case review, as outlined in the *Reference Manual and Procedures for Implementation of the “PURPA Standards” in the Energy Independence and Security Act of 2007*. This “technology plan” list several factors to be considered in developing a comprehensive plan among utilities to implement smart grid technologies. This planning option takes into account the reality that smart grid programs are made up of many components that will require an incremental approach to adoption and is well tailored to TVA’s position as a regulator of 159 individual distributor utilities. TVA should work with these utilities to develop a technology plan that will lead to the coordinated adoption of smart grid technologies throughout the Tennessee Valley.

IV. Smart grid information:

(A) All electricity purchasers shall be provided direct access, in written or electronic machine-readable form as appropriate, to information from their electricity provider as provided in subparagraph (B).

Southern Alliance for Clean Energy strongly encourages TVA to adopt this rule as written. Providing detailed usage information to end-use consumers could have an enormous impact on the efficient use of energy. Most domestic energy use is invisible to the consumer who has only a vague idea of how much energy they are using for different purposes and what sort of difference they could make by changing day-to-day behavior or investing in efficiency measures. Clear feedback is a necessary element in learning how to control fuel use more effectively over the long term and is necessary for sustained demand reduction.

Usage information provides the consumer with information that allows them to adjust their behavior to reduce energy consumption and transfer demand to off-peak times. Studies have shown that providing this information to consumers leads to direct energy savings ranging from 5 to 15%. When combined with innovative rate designs and energy efficiency incentive programs, greater overall energy savings are achieved as the consumer is better able to identify those actions that will provide the most benefits at minimal cost.

To the extent practicable, each of the four categories of information specified in the standard, (prices, usage, intervals, and sources), should be provided to the consumer. In addition, TVA should disclose the pollution resulting from the use of electricity each month on consumers' electric bill in two different ways:

- The overall number of pounds of each pollutant – carbon, nitrogen oxides, sulfur, mercury, and fine particles – per month based on the amount of energy consumed.
- The gross emissions from TVA, broken out by generating plant type

This data will allow customers to see both individually and on a utility scale how their energy consumption choices impact air pollution and climate change, thereby allowing the customer to make informed choices about their energy usage.

The Southern Alliance for Clean Energy strongly encourages TVA to adopt this standard as written. A commitment to providing this information to consumers will provide significant benefits in the form of reduced energy demand, reduced peak demand and a better informed public that will embrace energy efficiency programs.

V. Conclusion

The Southern Alliance for Clean Energy urges TVA to adopt the above PURPA standards, as written, in order to advance to goals of PURPA to encourage the conservation of energy supplied by electric utilities, optimize efficiency of electric facilities and resources, and facilitate equitable rates for electric consumers. The implementation of a transparent integrated resource planning process that includes energy efficiency as a priority resource,

along with rate designs that encourage energy efficiency investments by utilities and end-use consumers will lead to significant near-term reductions in energy demand throughout the Tennessee Valley. Further, the adoption of smart grid technologies, combined with the provision of energy usage information to consumers can ensure long-term efficient use of energy and the development of clean, renewable energy resources at the scale necessary to achieve a clean-energy future necessary and addressing the global warming crisis.

The Southern Alliance for Clean Energy stands ready to meaningfully engage in TVA's IRP process and to assist TVA in implementing these standards set forth by the Public Utility Regulatory Act of 1978 as amended by the Energy Independence and Security Act of 2007.

Respectfully submitted,

Southern Alliance for Clean Energy
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Knoxville, TN 37901
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From: matthew.brian.strickland@gmail.com
Sent: Wednesday, February 11, 2009 6:53 PM
To: PURPA
Subject: PURPA Comments

On Wednesday, February 11, 2009 at 18:53:03, the following data was submitted
from <http://www.tva.gov/purpa/comments2.htm>

2/11/2009 18:53

Name: Matt Strickland
Comment on: Smart Grid Information
Comments: As a residential consumer (through Huntsville
Utilities) I am writing to voice my strong support for TVA's adoption of the
"Smart Grid Information" provision of the "Energy Independence and Security
Act of 2007".

As more and more consumers become aware of the far-reaching effects of
excessive energy usage - from the generational implications of global warming
to the national security implications of our dependence on foreign oil - they
are becoming highly motivated to take a more active role in managing and
controlling their own contribution to these problems.

Given the challenges faced by our country I believe that now is the time to
mobilize ALL of our resources (consumers as well as suppliers) in order to
meet them.

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